



Attorney. Docket: 1302-388 (RD27764-3)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

APPLICANT(S): Carter et al. EXAMINER: Timothy J. Kugel
SERIAL NO.: 10/797,394 GROUP ART UNIT: 1712
FILED: March 8, 2004 DATED: December 6, 2007
FOR: STABILIZED POLYORGANOSILOXANE COMPOSITION

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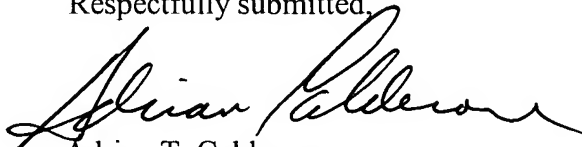
TRANSMITTAL OF APPELLANTS' BRIEF

Sir:

This brief is being submitted in triplicate pursuant to 37 C.F.R. §1.192. A Notice of Appeal was filed August 13, 2007.

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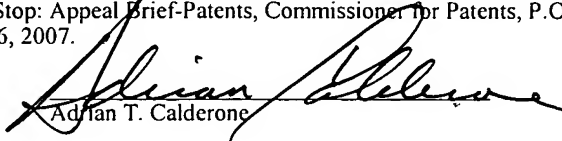
Respectfully submitted,


Adrian T. Calderone

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Dated: December 6, 2007


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APPELLANTS' BRIEF

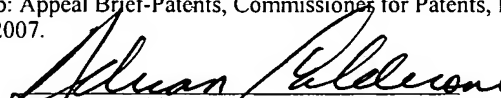
Sir:

This appeal is taken in view of the final rejection of the claims in the final Office Action dated April 18, 2007, and the Advisory Action dated August 24, 2007. A Notice of Appeal was filed August 13, 2007.

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Adrian T. Calderone

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Real Party in Interest

The real party in interest of this application is Momentive Performance Materials Inc., 187 Danbury Road, Wilton, Connecticut 06897.

Related Appeals and Interferences

None

Status of Claims

Claims 1 to 39 are pending in this application.

Claims 1, 14, 18, 19, 33 and 34 are rejected.

Claims 2-13, 15-17, 20-32 and 35-39 are withdrawn from consideration.

The claims on appeal are claims 1, 14, 18, 19, 33 and 34.

Status of Amendments

An Amendment after the final Office Action was filed on August 10, 2007 to correct a paragraph in the specification and present arguments in support of the patentability of the claims. No amendments therein were made to the claims.

Summary of Claimed Subject Matter

The summary of the claims with support in Appellant's specification is set forth below in TABLE 1.

TABLE 1

Claims	Support
1. A composition, comprising a polyorganosiloxane, and an admixed sterically hindered amine light stabilizer wherein the polyorganosiloxane is free from alternating cyclic hydrocarbon residues, and the hindered amine light stabilizer comprises a pendant siloxane chain.	Page 2, paragraph [0005], and page 8 [0022] formula (9).
14. The composition of claim 1 wherein said polyorganosiloxane is a reaction of product of a non-cyclic, vinylsiloxane fluid and an organohydrogensiloxane crosslinker cured in the presence of a platinum catalyst to form an elastomeric material.	Page 3, paragraph [0012].
<p>18. The composition of claim 14, wherein said vinylsiloxane fluid comprises:</p> <div style="text-align: center;"> $\begin{array}{c} \text{R}_1 \quad \left[\begin{array}{c} \text{R}_1 \\ \text{Si-O-Si-O-Si} \\ \text{R}_1 \end{array} \right]_n \text{R}_1 \\ \text{R}_1 \quad \quad \quad \text{R}_1 \quad \quad \quad \text{R}_1 \end{array}$ </div> <p>wherein n is a positive integer having a value such that a viscosity of the composition in a range between about 100 centipoise and about 200,000 centipoise at 25°C, and each R₁ is a monovalent hydrocarbon radical selected from the group consisting of alkyl radicals, aryl radicals, aralkyl radicals, alkenyl radicals, halogenated derivatives of said radicals, and cyanoalkyl radicals.</p>	Pages 3-4, paragraph [0013], formula (1).
19. The composition of claim 18, wherein said R ₁ is an alkyl radical having an amount of carbon atoms in a range of from 1 to 8.	Page 4, paragraph [0012], last two lines of paragraph

<p>33. A thermally stable composition comprising: a polyorganosiloxane modified HALS comprising a pendant siloxane chain; and a polyorganosiloxane that is free of alternating cyclic hydrocarbon residues.</p>	<p>Page 9, paragraphs [0023 – [0025]</p>
<p>34. The composition as defined in claim 1, wherein the composition is curable to form a thin film by heating.</p>	<p>Page 9-10, paragraph [0025]</p>

Ground of Rejection to be Reviewed on Appeal

The issue raised by the rejection is as follows:

Whether the claims on appeal are properly rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 6,013,729 (hereinafter, "Tsujiimoto et al.") in view of Publication No. WO/96/16110 (hereinafter, "Karrer").

Argument

It is respectfully submitted that the claims do not stand or fall together but are grouped as indicated below.

1. Claims 1 and 33

Claims 1 and 33 are rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 6,013,792 (hereinafter, “Tsujiimoto et al.”) in view of WO 96/16110 (hereinafter, “Karrer”). Tsujiimoto et al. is directed to elastomer compositions and is cited for allegedly disclosing linear organohydrogensiloxanes and the use of unspecified hindered amine light stabilizer additives. Karrer is cited for disclosing sterically hindered amines with a pendent siloxane chain. This rejection is respectfully traversed.

The final Office Action states as follows:

Tsujiimoto teaches an elastomer composition — including linear organohydrogensiloxanes crosslinked with a platinum vinylsiloxane complex (column 4, line 36 – column 6, line 3) and other additives such as hindered amine light stabilizers (column 9, lines 20-29).

More particularly, Tsujiimoto et al. discloses a composition comprising:

- (a) an ethylene-alpha-olefin unconjugated diene copolymer rubber as a dispersed phase;
- (b) a silicon type crosslinking agent;
- (c) a hydrosilylation catalyst; and
- (d) a thermoplastic hydrocarbon resin continuous phase containing grafted hydrolysable silane groups. The disclosed hydrolysable silane groups are alkoxysilanes.

In contrast to this, the invention herein comprises a composition including an elastomeric component admixed with a light stabilizer wherein the elastomeric component is a polyorganosiloxane without alternating cyclic hydrocarbon residues. The hindered amine light stabilizer (HALS) includes a pendant siloxane chain.

The legal standard for the determination of obviousness is set forth in *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966), which states in relevant part:

Under §103, the scope and content of the prior art are to be determined; differences between the prior art and claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art to be resolved. Against this background, the obviousness or non-obviousness of the subject matter is to be determined.

Pursuant to MPEP §2142, to establish a *prima facie* case of obviousness three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based upon applicant's disclosure. See, *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed Cir. 1991). In *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d. 1385 (US 2007) the Court established the principle that any need or problem known in the field and addressed by the patent can provide a reason for combining the elements in the manner claimed. However, pursuant to MPEP §2141.01(a) to rely on a reference under 35 U.S.C. 103, it must be analogous prior art. In order

to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned. *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992).

In the present instance the disclosure of Tsujimoto et al. is directed to a material which differs in fundamental respects from polyorganosiloxanes, which have multiple Si-O linkages in the polymer chain. The Examiner has mischaracterized the teaching of Tsujimoto et al. as "including linear organohydrogensiloxanes crosslinked with a platinum vinylsiloxane complex". To the contrary, component (a) of Tsujimoto et al., the uncrosslinked elastomer, does not contain silicon and is not a siloxane rubber. The elastomer of Tsujimoto et al. is a hydrocarbon rubber crosslinked by siloxanes using a hydrosilylation catalyst. One skilled in the art would realize that a hydrocarbon polymer crosslinked by siloxanes does not constitute, and is not analogous to, a polyorganosiloxane.

Referring now to the Examples in Tsujimoto et al., particularly Table 1 at column 14, Example 3 illustrates the formulation of a composition comprising 100 parts (by weight) EPDM, 100 parts silane graftomer (3), and 28 parts crosslinking agent (3). The silane graftomer (3) is made by combining 2 parts vinyltrimethoxy silane with 100 parts ethylene-propylene copolymer and therefore contains over 98% hydrocarbon content. The crosslinked EPDM contains over 78% hydrocarbon content. In contrast to the Tsujimoto et al. composition, Appellants' polyorganosiloxane is the result of crosslinking a compound having multiple Si-O linkages (e.g., vinylsiloxane) with an organohydrogensiloxane. (See, specification paragraphs [0011] to [0016]), which is entirely different from the silane crosslinked olefin copolymer of

Tsujimoto et al. Accordingly, the Tsujimoto et al. composition does not correspond to the polyorganosiloxane of Appellants' claims. It cannot anticipate or render obvious a siloxane elastomer crosslinked by other siloxanes. Therefore, the rejection is based upon a factual error.

As further evidence that the Tsujimoto et al. composition is not analogous art Appellants point to the different problems attempted to be solved. The primary object of Tsujimoto et al. is "... to provide an elastomer composition which is comparable in rubber elasticity to cured rubbers, has excellent moldability and workability, is highly safe when used in various applications, and is excellent in long-term reliability with respect to performance characteristics, for example, freedom from base polymer deterioration." (Col. 2, lines 40-47). The applications include automotive parts, household electrical appliance parts, electric wire coverings, medical device parts, footwear, etc. There is no concern about transparency or haze. In fact, the Tsujimoto et al. composition can also include fillers such as carbon black, calcium carbonate, talc, magnesium hydroxide, mica, titanium oxide, etc., which would make the composition opaque. (Col. 9, lines 13-19). However, Appellants' stabilized polyorganosiloxane composition is intended for use as a coating for light bulbs to improve impact resistance and prevent scattering of glass shards if the bulb breaks. Transparency and the absence of haze are significantly desirable features for such a coating. One skilled in the art of such coatings would hardly be motivated to look to look to the Tsujimoto et al. composition as a workable alternative.

Accordingly, the Tsujimoto et al. composition is not in the field of Appellants' endeavor and is not reasonably pertinent to the particular problem with which the Appellants were concerned.

Karrer does not cure the deficiency of Tsujimoto et al. Even if one were to combine the light stabilizer of Karrer with the elastomer of Tsujimoto et al. one would not arrive at Appellants' composition.

Independent claim 33 is submitted to be allowable for the same reasons as give above for claim 1.

Accordingly, the Examiner has grounded the rejection on an error of scientific fact, and the Examiner's negative conclusion as to the patentability and non-obviousness of Appellants' claims constitutes clear error from both a scientific and legal standpoint.

2. Claim 14

The arguments presented above with respect to claims 1 and 33 are reiterated herein.

Claim 14 depends from claim 1 and further recites that the polyorganosiloxane is the reaction product of a (pre-crosslinked) non-cyclic vinylsiloxane fluid and an organohydrogensiloxane cross-linker. As stated above, the Tsujimoto et al. composition results from the hydrosilylation of a (pre-crosslinked) non-silicon containing alpha-olefin hydrocarbon copolymer with an organohydrogensiloxane. The result is a completely different composition than that of Appellants' claim 14. Accordingly, it is respectfully submitted that claim 14 is even further distinguished over the cited prior art and is separately patentable.

3. Claims 18 and 19

The arguments presented above with respect to claims 1 and 33 are reiterated herein.

Claim 18 depends from claim 14 and further defines the vinylsiloxane fluid. As can be seen, the vinylsiloxane does not include alkoxy groups. The composition of Tsujimoto et al. is water cured and requires hydrolysable groups (i.e., alkoxy groups), whereas the composition of the present invention is heat cured and does not include hydrolysable groups. Therefore, nothing in Tsujimoto et al. suggests the equivalence between the hydrolysable alkoxysilane grafted elastomers disclosed therein and the polyorganosiloxanes of Appellants' claims. Claim 18 is even further distinguished over the cited prior art and is submitted to be separately submitted patentable.

Claim 19 depends from claim 18 and is also submitted to be separately patentable.

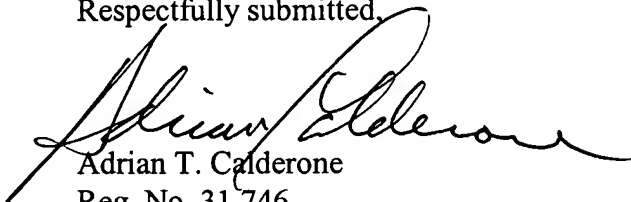
4. Claim 34

Claim 34 depends from claim 1 and recites that the composition is curable to a thin film by heating. As explained previously, the Tsujimoto et al. composition is moisture cured. The composition of the present invention is cured by heat. There is nothing in Tsujimoto to suggest Appellants' heat curing composition. Tsujimoto et al. requires the presence of hydrolysable silane groups (e.g. alkoxysilane groups) to facilitate crosslinking with water. The composition of the present invention does not require alkoxy groups and is not moisture cured. Claim 34 is even further distinguished over the cited prior art and is submitted to be separately patentable.

CONCLUSION

Because the Examiner's legal analysis constitutes clear error and thus reversible error, Appellants respectfully submit that all of the claims are allowable over the cited prior art. Reversal of the rejection by the Board is respectfully requested.

Respectfully submitted,

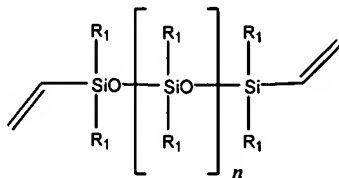

Adrian T. Calderone
Reg. No. 31,746
Attorney for Applicant(s)

DILWORTH & BARRESE
333 Earle Ovington Blvd.
Uniondale, NY 11553
(516) 228-8484

Claims Appendix

Listing of Claims on Appeal:

1. A composition, comprising
a polyorganosiloxane, and
an admixed sterically hindered amine light stabilizer
wherein the polyorganosiloxane is free from alternating cyclic hydrocarbon residues, and the hindered amine light stabilizer comprises a pendant siloxane chain.
14. The composition of claim 1 wherein said polyorganosiloxane is a reaction product of a non-cyclic, vinylsiloxane fluid and an organohydrogensiloxane crosslinker cured in the presence of a platinum catalyst to form an elastomeric material.
18. The composition of claim 14, wherein said vinylsiloxane fluid comprises:



wherein n is a positive integer having a value such that a viscosity of the composition in a range between about 100 centipoise and about 200,000 centipoise at 25°C, and each R₁ is a monovalent hydrocarbon radical selected from the group consisting of alkyl radicals, aryl radicals, aralkyl radicals, alkenyl radicals, halogenated derivatives of said radicals, and cyanoalkyl radicals.

19. The composition of claim 18, wherein said R_1 is an alkyl radical having an amount of carbon atoms in a range of from 1 to 8.

33. A themally stable composition comprising:

a polyorganosiloxane modified HALS comprising a pendant siloxane chain; and

a polyorganosiloxane that is free of alternating cyclic hydrocarbon residues.

34. The composition as defined in claim 1, wherein the composition is curable to form a thin film by heating.

Evidence Appendix

None

Related Proceedings Appendix

None